

REMARKS

Claims 1-29 are pending in the application.

Claims 1-29 stand rejected.

Claims 1, 4, 11, 12, 21, and 29 have been amended.

Formal Matters

Claims 4 and 11 are amended to correct informalities.

Rejection of Claims under 35 U.S.C. § 103: Claims 1-3, 5, 6 and 8

Claims 1-3, 5, 6 and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lu, U.S. Patent No. 5,412,652 (Lu) in view of Takatori et al., U.S. Patent No. 5,550,805 (Takatori) and further in view of Swinkels et al., U.S. Patent 6,795,394 (Swinkels).

Claim 1 clearly distinguishes over the cited references. As amended, claim 1 recites, “restoring transmission of the protect channel data on an alternate channel other than the protect channel ... wherein the alternate channel transmits the protect channel data from a first communications network node to a second communications network node via a mesh node.” Claim 1 distinguishes over any combination of the Lu, Takatori, and Swinkels references because none of the references show, teach, or suggest restoring the transmitting of protect channel data by transmitting the protect channel data from a first network node to a second network node via a mesh node.

Both Lu and Takatori clearly fail to teach restoring the transmitting of protect channel data on an alternate channel. The Office action notes that “Lu in view of

Takatori do [*sic*] not disclose the transmittal of the protect channel data on a channel other than the protect channel.” Page 3, lines 16-17. Therefore, neither Lu nor Takatori could be expected to, and in fact do not, show or teach “transmitting the protect channel data on an alternate channel ... [that] transmits the protect channel data ... via a mesh node,” as recited in claim 1.

Swinkels does not remedy the deficiencies of Lu and Takatori. While Swinkels discusses a mesh arrangement of protection paths, Swinkels does not disclose restoring protect channel data by transmitting the protect channel data from a first network node to a second network node via a mesh node. There are two places where Swinkels discusses a mesh arrangement of protection paths, and neither shows or teaches transmitting protect channel data from a first network node to a second network node via a mesh node.

First, in column 4, lines 1-4, Swinkels states, “Preferably, the protection paths are arranged in a mesh. This may enable more of the extra traffic to be protected so the efficiency can be improved, though at the expense of more complexity.” Simply disclosing that protection paths are arranged in a mesh, as Swinkels does in column 4, lines 1-4, does not show, teach or suggest “restoring the transmitting of the protect channel data on an alternate channel ... wherein the alternate channel transmits the protect channel data from a first communications network node to a second communications network node via a mesh node.”

Second, in column 8, line 63 to column 9, line 7, Swinkels states, “FIG. 10 shows another embodiment in which the alternative path is provided by a mesh of protection paths ... [T]he mesh of protection paths introduces more complexity since each node needs to make routing decisions for the protected extra traffic.” Swinkels does not provide any additional discussion of how the mesh of protection paths shown in FIG. 10 works. In FIG. 10, the protection paths are arranged such that each node of the ring

network is directly connected to every other node of the ring network. Therefore, protect channel data that is transmitted from a first node to a second node might be transmitted directly from the first node to the second node, but would not be transmitted via an additional mesh node. Indeed, protect channel data cannot be transmitted from a first node of FIG. 10 to a second node of FIG. 10 via a mesh node because FIG. 10 fails to show a mesh node that could be used for this purpose.

Applicant submits that Swinkels actually teaches away from transmitting protect channel data from a first network node to a second network node via a mesh node. While Swinkels teaches the use of mesh protection paths, Swinkels is cautious about implementing mesh networks. Each time Swinkels mentions the use of meshes, Swinkels cautions against the perceived disadvantages of mesh networks:

- "Compared to ring arrangements, the main drawback of mesh networks is the complexity of managing the network and deciding which protection paths to use in the event of a fault." Column 2, lines 15-20.
- "[N]etwork operators perceive ... meshes to be efficient, yet difficult to manage and operate." Column 2, lines 22-25.
- "[Alternative ways] of achieving better bandwidth utilisation may be simpler to manage and operate compared to trying to achieve a corresponding bandwidth utilisation improvement in other known ways such as by providing more meshed paths ... this known method has the disadvantage of introducing more complexity into managing the switching decisions for the mesh restoration." Column 2, lines 47-52.
- "[The] use of the other way around the protection ring provides a guaranteed alternative path and is easier to manage and operate than a mesh arrangement of protection paths." Column 2, line 66 to Column 3, line 8.
- "[P]rotection paths are arranged in a mesh ... at the expense of more complexity." Column 4, lines 1-4.
- "[S]pan and ring switching can be more rapid than mesh schemes for example, since intermediate nodes need not be reconfigured, and there is no need to spend time calculating which is the optimum route." Column 4, lines 48-51.
- "[T]he mesh of protection paths introduces more complexity since each node needs to make routing decisions for the protected extra traffic." Column 9, lines 3-5.

Clearly, Swinkels perceives numerous disadvantages to using mesh protection paths and seems to prefer ring networks to mesh networks. Swinkels' wariness about using mesh

paths teaches away from using an additional mesh node since it might be perceived to add even more complexity to a network. Therefore, Swinkels does not, and could not be expected to, suggest transmitting protect channel data from a first network node to a second network node via a mesh node

During the interview, the undersigned proposed an amendment to claim 1 similar to the current amendment to claim 1. The Examiner stated that such an amendment would not distinguish over Swinkels, suggesting that the amendment would make claim 1 ambiguous. Applicant submits that claim 1, as amended, is unambiguous. Claim 1 recites, in relevant part:

[R]estoring the transmitting of the protect channel data on an alternate channel other than the protect channel by applying a mesh restoration protocol to the communications network, wherein the alternate channel transmits the protect channel data from the first communications network node to the second communications network node via a mesh node.

Claim 1 clearly satisfies the requirements of 35 U.S.C. § 112 by “appris[ing] one of ordinary skill in the art of its scope.” MPEP § 2173.02. The scope of claim 1 includes “restoring the transmitting of the protect channel data on an alternate channel ... via a mesh node.” As previously discussed, claim 1 distinguishes over Swinkels because Swinkels fails to teach “restoring transmission of the protect channel data on an alternate channel ... via a mesh node.”

Accordingly, Applicant submits that claim 1 clearly distinguishes over Lu in view of Takatori and Swinkels. Applicant therefore submits that independent claim 1, as well as claims 2, 3, 5, 6, and 8, which depend from claim 1, are allowable for at least the foregoing reasons. Thus, Applicant requests withdrawal of the rejections based upon 35 U.S.C. §103(a). Applicant respectfully submits that claims 1-3, 5, 6, and 8 are in condition for allowance.

Rejection of Claims under 35 U.S.C. § 103: Claim 4

Claim 4 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Lu, U.S. Patent No. 5,412,652 (Lu) in view of Takatori et al., U.S. Patent No. 5,550,805 (Takatori) and further in view of Swinkels et al., U.S. Patent 6,795,394 (Swinkels) and further in view of Nemoto, U.S. Patent No. 5,506,833 (Nemoto). As an initial point, Applicant notes that claim 4 depends from claim 1, and is allowable for at least the same reasons that claim 1 is allowable.

Applicant submits that claim 4 further distinguishes over the cited references. Claim 4 recites that the “alternate channel includes connected working and protect channels.” During the telephone interview, the Examiner noted that none of the cited references teach restoration of protect channel data on connected working and protect channels. However, it was suggested that the claim was ambiguous because the “failed working channel” could be included in the “connected working and protect channels.” Applicant respectfully disagrees. Claim 4 does not suggest any relationship between the “failed working channel” and the “connected working and protect channels.” Furthermore, one of ordinary skill in the art would recognize that the transmitting of protect channel data cannot be restored on a failed channel; therefore, the context of the claim shows that the “failed working channel” is not one of the “connected working and protect channels.” Accordingly, claim 4 is unambiguous and clearly distinguishes over the cited references.

Therefore, Applicant submits that claim 4 is allowable for at least the foregoing reasons. Applicant requests withdrawal of the rejections based upon 35 U.S.C. § 103(a). Thus, Applicant respectfully submits that claim 4 is in condition for allowance.

Rejection of Claims under 35 U.S.C. § 103: Claim 7

Claim 7 stands rejected under 35 U.S.C §103(a) as being unpatentable over Lu, U.S. Patent No. 5,412,652 (Lu) in view of Takatori et al., U.S. Patent No. 5,550,805 (Takatori) and further in view of Swinkels et al., U.S. Patent 6,795,394 (Swinkels) and further in view of Shah, et al., U.S. Patent No. 5,646,936 (Shah). Applicant notes that claim 7 depends from claim 1 and is allowable for at least the same reasons that claim 1 is allowable.

Rejection of Claims under 35 U.S.C. § 103: Claims 9-11

Claims 9-11 stand rejected under 35 U.S.C §103(a) as being unpatentable over Lu, U.S. Patent No. 5,412,652 (Lu) in view of Takatori et al., U.S. Patent No. 5,550,805 (Takatori) and further in view of Swinkels et al., U.S. Patent 6,795,394 (Swinkels) and further in view of Shioda, et al., U.S. Patent No. 5,537,393 (Shioda). Applicant notes that claims 9-11 depend from claim 1 and are allowable for at least the same reasons that claim 1 is allowable.

Rejection of Claims under 35 U.S.C. § 103: Claims 12-18, 20-25, and 27-29

Claims 12-18, 20-25 and 27-29 stand rejected under 35 U.S.C §103(a) as being unpatentable over Shioda, et al., U.S. Patent No. 5,537,393 (Shioda) in view of Takatori et al., U.S. Patent No. 5,550,805 (Takatori) and further in view of Swinkels et al., U.S. Patent 6,795,394 (Swinkels).

Claims 12 is amended to recite “restoration of protect channel data ... by transmitting the protect channel data from a first communications network node to a second communications network node via a mesh node.” Claims 12 distinguishes over

any combination of Shioda, Takatori, and Swinkels because none of the references show, teach, or suggest “restoration of protect channel data ... by transmitting the protect channel data from a first communications network node to a second communications network node via a mesh node.”

Both Shioda and Takatori clearly fail to teach restoring the transmitting of protect channel data on an alternate channel. The Office action notes that “Shioda in view of Takatori do [*sic*] not disclose the transmittal of the protect channel data on a channel other than the protect channel.” Page 8, line 22. Therefore, neither Shioda nor Takatori could be expected to, and in fact do not, show or teach “restoration of protect channel data ... by transmitting the protect channel data from a first communications network node to a second communications network node via a mesh node,” as recited in claim 12. Furthermore, as noted in the discussion of claim 1, Swinkels does not teach restoration of protect channel data by transmitting the protect channel data from a first network node to a second network node via a mesh node.

Therefore, claim 12 clearly distinguishes over Shioda in view of Takatori and Swinkels. Applicant submits that the foregoing arguments apply with equal force to claims 21 and 29. Applicant therefore submits that independent claims 12, 21, and 29, as well as claims 13-18, 20, 22-25, 27 and 28, which depend from claims 12 and 21, are allowable for at least the foregoing reasons. Thus, Applicant respectfully submits that claims 12-18, 20-25 and 27-29 are in condition for allowance.

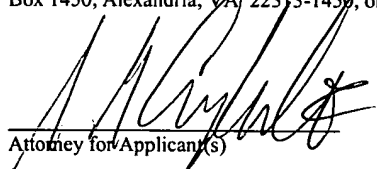
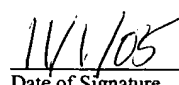
Rejection of Claims under 35 U.S.C. § 103: Claims 19 and 26

Claims 19 and 26 stand rejected under 35 U.S.C §103(a) as being unpatentable over Shioda, et al., U.S. Patent No. 5,537,393 (Shioda) in view of Takatori et al., U.S.

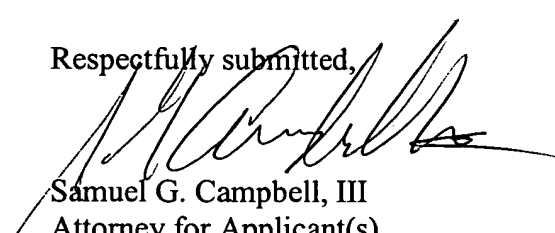
Patent No. 5,550,805 (Takatori) and further in view of Swinkels et al., U.S. Patent 6,795,394 (Swinkels) and further in view of Shah, et al., U.S. Patent No. 5,646,936 (Shah). Applicant notes that claim 19 and 26 depend from claims 12 and 21; therefore, claims 19 and 26 are allowable for at least the same reasons that claims 12 and 21 are allowable.

CONCLUSION

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned at 512-439-5084.

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